

### REMARKS

By the above actions, the title, abstract and claims 1-3 have been amended. In view of these actions and the following remarks, reconsideration of this application is hereby requested.

The abstract and title were objected to and as a result have been amended to direct the abstract to the product instead of the method and to make the title more indicative of the claimed subject matter. Should either the title or abstract still be unsuitable, the Examiner is hereby authorized to amend same to his liking by Examiner's Amendment.

Claims 1 & 2 were rejected under 35 U.S.C. § 103 based on the disclosure of the Bailey patent. In making this rejection the Examiner has cited MPEP § 2113 and the case of *In re Thorpe* with regard to the treatment of product-by-process claims with the indication that consideration has not been given to the recitation concerning attachment by a magnetic deformation process. This rejection and the reference to product-by-process claims are considered to both be inappropriate for the following reasons.

Firstly, it is noted that neither claim 1 nor claim 2 is a product-by-process claim as that term is normally used, and moreover, the more relevant case and comments contained in MPEP § 2113

The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Guernero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding "interbonded by interfusion" to limit structure of the claimed composite and noting that terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of construction as structural limitations.) [Emphasis added.]

In the same manner that terms such as 'welded,' 'intermixed,' 'ground in place,' 'press fitted,' and 'etched' are capable of construction as structural limitations," it is submitted that "magnetic formation" similarly defines structural limitations that should be considered in assessing the patentability of the present claims.

Also relevant to the weight that should be given to process steps in product claims is the case of *In re Hallman*, 210 USPQ 609, 611 (CCPA 1981) in which it was held that:

Product claims may be drafted to include process steps to wholly or partially define the claimed product. In *e Luck*, 476 F.2d. 650, 177 USPQ 523

(CCPA 1973). To the extent that the process limitation distinguish the *products* over the prior art, they must be given the same consideration as traditional product characteristics. (Emphasis in original).

In the present case, the process limitation does distinguish the present invention from the prior art because, in Bailey's glow plug, the "undulated compliant sleeve 46 is brazed at its first alternate and second alternate undulations 48, 49 between the surface ignition element first end portion 32 and the body second end portion 28" (column 6, lines 51-55) and such a method of connection inherently results in the parts being thermally treated in the area at which the brazing is performed. In contrast, when parts are joined by magnetic deformation, no thermal treatment effects result. Furthermore, with brazing, the elements are merely joined at the bonding points, and unlike the resilient connection that results from bonding undulation peaks of a undulated compliant sleeve, the plastic deformation produced by a magnetic deforming process is rigid without the resiliency that is deliberately sought by Bailey.

To bring out the noted physical difference that inherently results from the difference between the manner in which applicant forms his attachments and the manner in which Bailey produces his, the claims have been amended to indicate that the magnetic forming produces attachment in a manner which results in the parts being "in a plastically deformed state which is free of thermal treatment effects and scuffing." For the above reasons and in view of the amended claim language, it is submitted that the subject matter of the claims cannot properly be considered to have been rendered obvious by the disclosure of the Bailey patent, so that withdrawal of the rejection based on the Bailey patent is in order and is now requested.

Claim 3 was rejected under 35 U.S.C. § 103 based on the disclosure of the Hausner et al. patent. All of the comments and citations relative to the weight which must be given to the magnetic forming recitation of the present claims applies to this rejection as well. Thus, in a similar manner, the magnetic forming recitation of the present claims also structurally distinguishes the present invention from that of the Hausner et al. patent.

In particular, the Hausner et al. patent discloses that its parts are joined by a press fit type connection (paragraph spanning columns 1 & 2). A press fit connection inherently results in at least one of the parts that are so joined being scuffed, scuffing damages the corrosion protection of the joined parts (e.g., note that the plug body has a coating applied to

it). In contrast, magnetic forming is a contactless deformation process that provides a uniformly rigid attachment over the entire area of the joint without any scuffing.


Thus, in view of the amended claim language, it is submitted that the claims structurally distinguish their subject matter from that of the Hausner et al. patent and that the claims cannot properly be considered to have been rendered obvious by the disclosure of the Hausner et al. patent, so that withdrawal of the § 103 rejection based thereon is in order and is now requested.

The prior art that has been cited, but not applied by the Examiner has been taken into consideration during formulation of this response. However, since this art was not considered by the Examiner to be of sufficient relevance to apply against any of the claims, no detailed comments thereon are believed to be warranted at this time.

While the present application is now believed to be in condition for allowance, should the Examiner find some issue to remain unresolved, or should any new issues arise, which could be eliminated through discussions with applicant's representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Lastly, it is noted that a separate Extension of Time Petition accompanies this response along with payment of the requisite extension of time fee. However, should that petition become separated from this Amendment, then this Amendment should be construed as containing such a petition and the required payment applied to Deposit Account No. 192380 (740124-183).

Respectfully submitted,

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